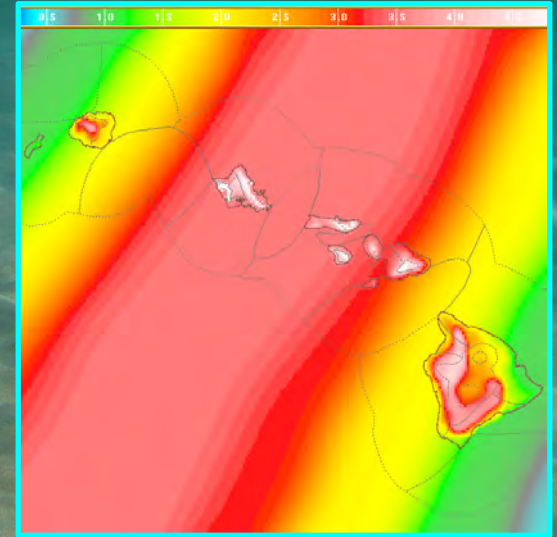
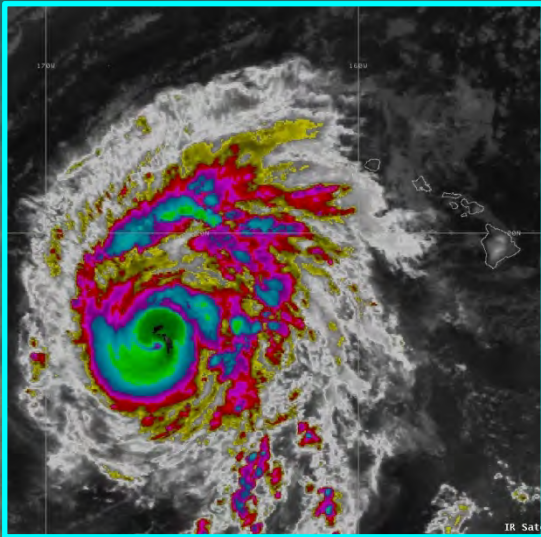


# National Oceanic and Atmospheric Administration *International Partnerships to Build Weather-Ready Nations*



Raymond Tanabe  
NOAA/National Weather Service  
Pacific Region

WMO/ESCAP Typhoon Committee  
9<sup>th</sup> Integrated Workshop  
Bangkok, Thailand 2014



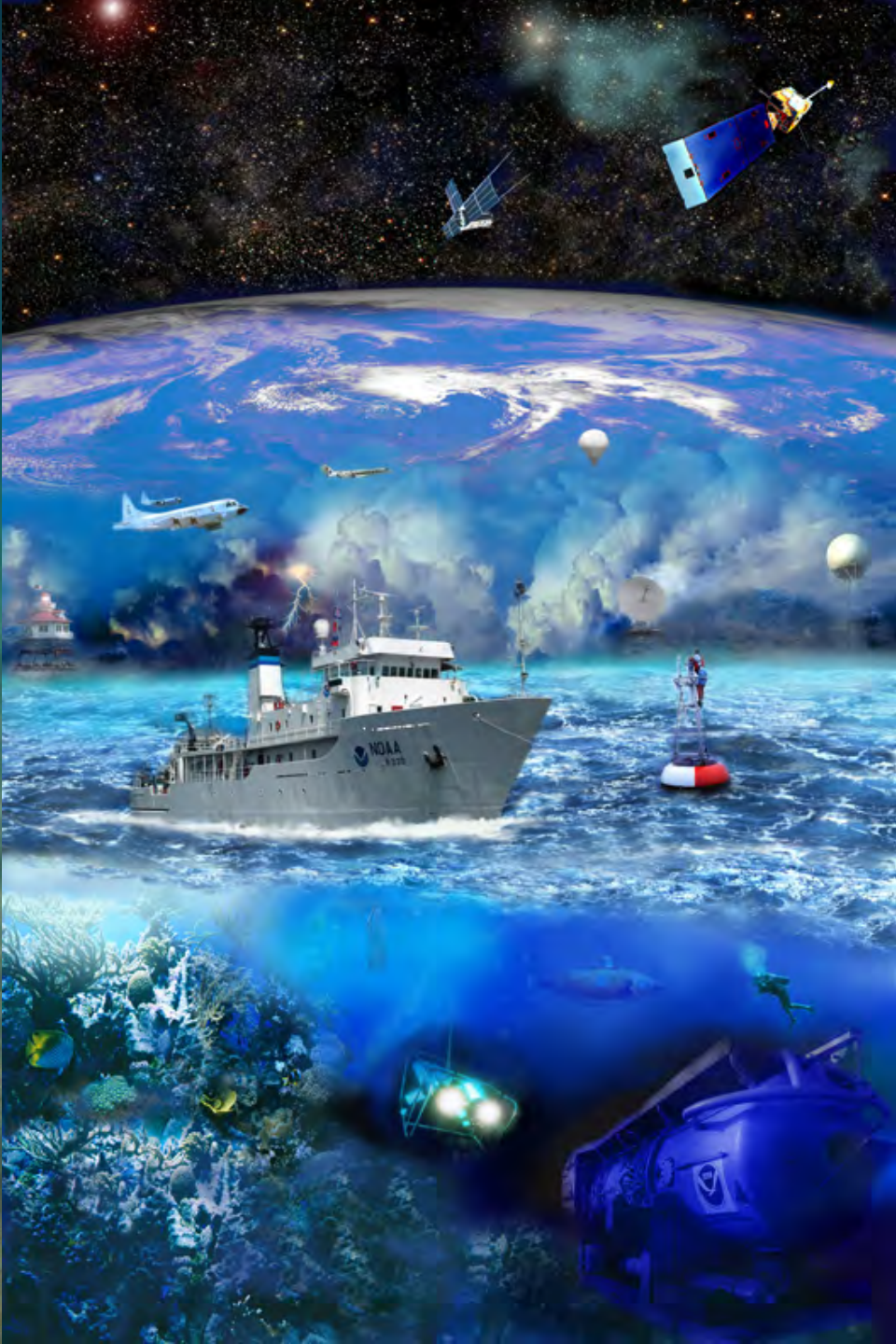


# **Department of Commerce**

## **National Oceanic and Atmospheric Administration**

**WRN**





# From The Surface Of The Sun To The Depths Of The Ocean Floor

*NOAA is an agency that  
enriches life through science.*

*Our reach from sun to  
seafloor helps to keep citizens  
informed of the changing  
environment around them.*



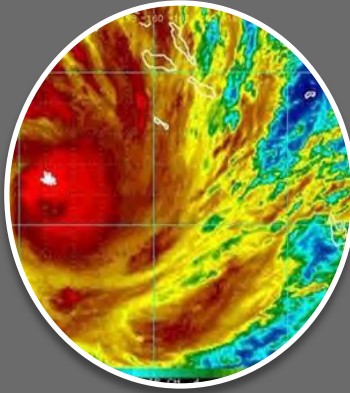
# NOAA Line Offices



**National  
Weather  
Service (NWS)**



**Oceanic and  
Atmospheric  
Research (OAR)**



**National  
Environmental,  
Satellite, Data,  
& Information  
Service**



**National Ocean  
Service (NOS)**



**National  
Marine  
Fisheries  
Service (NMFS)**

SCIENCE

SERVICE

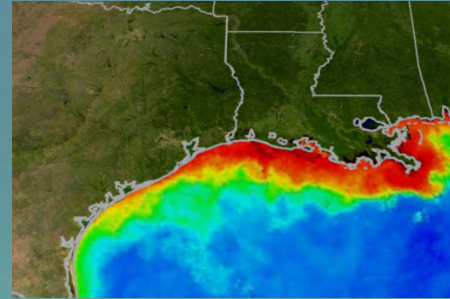
STEWARDSHIP

# NOAA Strategic Priorities

**Solid, Credible  
Science**



**Healthy oceans**



**Sustainable  
seafood and jobs**



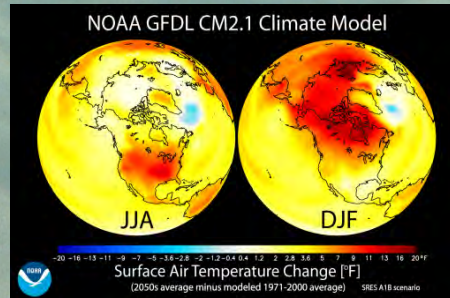
**Resilient coastal  
communities &  
economies**



**Weather Ready  
Nation**



**Climate Information  
& Decision Support**





# NOAA Assets

- NOAA professionals
  - 20,000 staff
    - 12,500 FTE
    - NOAA Corps – the Nation's 7th Uniformed Service
    - 7,500 contractors
    - 18 National Labs & Science Centers
- High Performance Computing
- Observing Systems
  - ~125 weather radars
  - 10 satellites
  - 3 buoy networks
  - 210 tide gages
- Ships and Aircraft
  - 17 ships
  - 10 aircraft



Okeanos Explorer



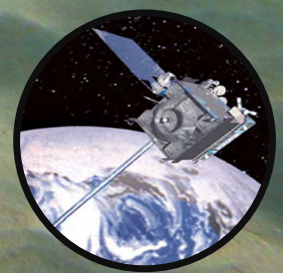
NOAA G4 and P3



NOAA Employee Operating AWIPS



TAO Buoy

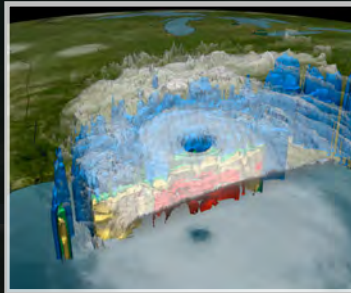
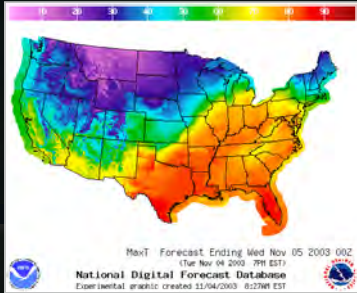
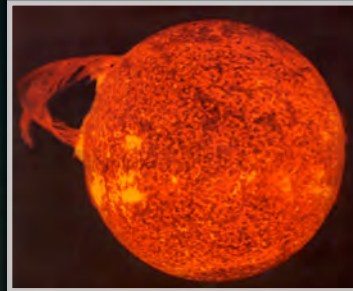
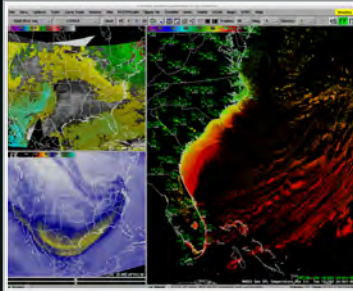


GOES 6



# NOAA/National Weather Service

## *Building a Weather Ready Nation*





# NOAA/National Weather Service

## VISION



**Build a Weather-Ready Nation where Society is prepared for and responds to Weather-Dependent Events**

## MISSION



**Provide weather, water, and climate data, forecasts and warnings for the protection of life and property and the enhancement of the national economy.**



# Context

## *Why build a Weather-Ready Nation?*



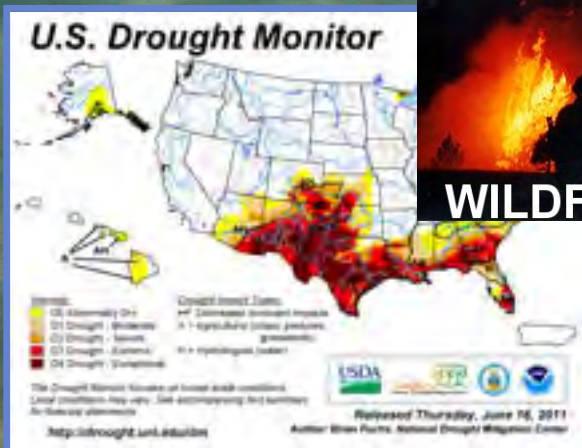
**549 Fatalities from  
1,748 Tornadoes**



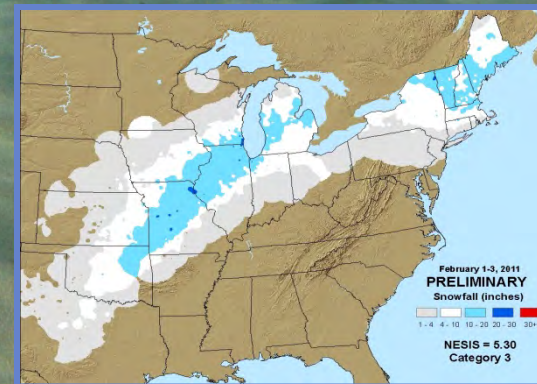
**Historic U.S. Floods**



**Pacific Tsunami**



**Millions of Acres Burned**



**Devastating Blizzards**



# What is at risk? What can we do?



Life and  
Property



Aviation



Maritime



Space  
Operations



Forests



Emergency  
Management



Commerce



Ports



Energy



Hydropower



Reservoir  
Control



Infrastructure



Construction



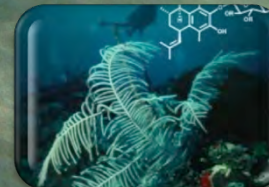
Agriculture



Recreation



Ecosystems



Health

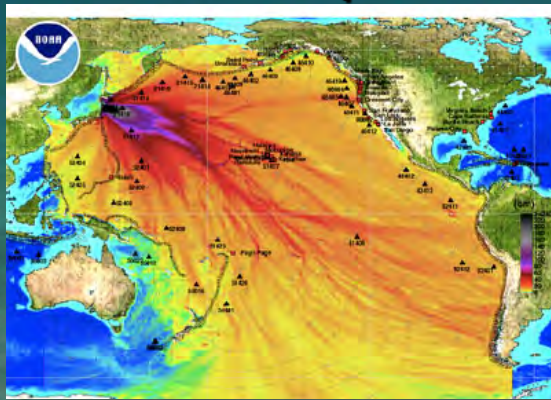


Environment

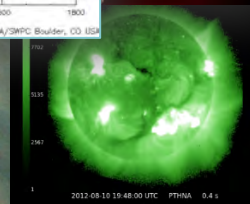
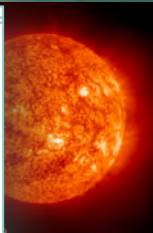
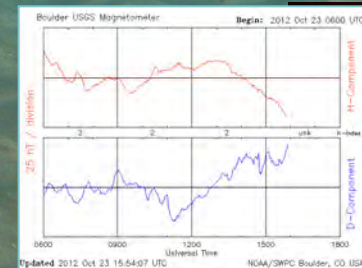
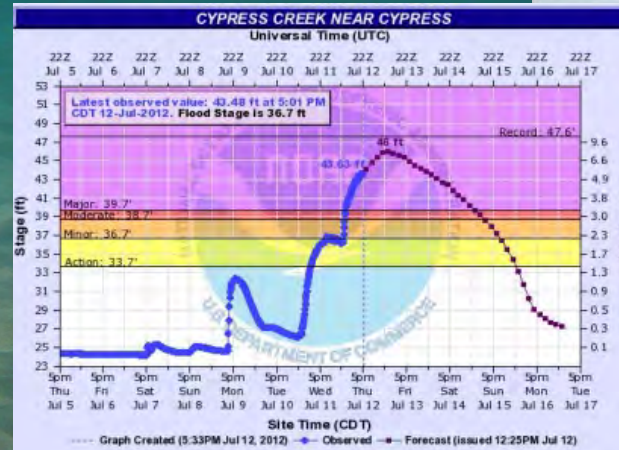


# Forecasts from the Sun to the Sea

- 2011 Japan Tsunami:
- California Impacts



**Winter Storm Forecasts**  
-Lead time of 2-3 days



**Wildfire Support**  
**On-site**  
**Meteorologists**

**NOAA's**  
**Incident**  
**Meteorologists**



**Drought and flood forecasting**

**Improved**  
**space weather**  
**forecasting**



# **Weather Ready Nation**

## ***Five Major Focus Areas***

- **Impact Based Decision Support Services**
- **Communications/Outreach**
- **Science and Technology Advances**
- **Information Delivery**
- **Innovative Partnerships**





# ...and it's all about Partnerships



Government



Emergency  
Management



Academia



Private  
Sector



Broadcast  
Media



Social Science



Building a Weather-Ready Nation



# Weather Ready Nation Initiatives

*Does not stop at the border – International Engagement*

–Same challenges exist in other countries

- Global vulnerability increasing
- Quantifying societal relevance
- Communicating the science

–We can learn from one another

- Open dialogue
- Sharing best practices
- Strength in numbers





# WRN Roadmap

- Formalized and signed in April 2013
- Executive Summary: Key Concepts

“Expand leverage of NWS international agreements to expand infusion of new weather and climate information, new science, and innovative technology”



# Weather, Water, and Climate Information

- Promote availability, exchange, and use of relevant data worldwide
- Seamless suite of information
- Bilateral and multilateral agreements with other countries and international institutions




# End Goal

- Better information for better decisions





An underwater photograph showing a sandy ocean floor with wavy ripples. The water above is a clear, deep blue. The word "Aloha !" is written in a bold, yellow, sans-serif font with a black outline, centered in the middle of the image.

**Aloha !**